UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

15 JUL 2004

MEMORANDUM

SUBJECT: Response to National Remedy Review Board Recommendations for the Omaha Lead Superfund Site

FROM: Cecilia Tapia, Director
Superfund Division

TO: Jo Ann Griffith, Chair
National Remedy Review Board

The Environmental Protection Agency, Region 7, appreciates the review and comments concerning the pending remedy for the Omaha Lead site (OLS) provided by the National Remedy Review Board (NRRB). This process helps assure cost-effective use of resources and consistency in approach between regions. We look forward to continuing to participate on the NRRB. Below are the Region's responses to comments provided by the NRRB concerning the OLS.

Region 7 Response to NRRB Comments

1. The site, as defined by the Region, is very large, extending several miles from the former lead refinery. The package provided to the NRRB indicated that area properties had been contaminated as a result of air emissions from lead operations, consumer products, and leaded gas exhaust from vehicles. Also, information provided at the meeting on speciation studies indicated that on average about 38 percent of the lead is associated with refining. Given the large area which is proposed to be addressed under the Superfund program, the NRRB recommends that the Region provide additional information in the decision documents to justify the boundaries of the Superfund site. This additional information could include a more representative lead background level discussion of the state/city average compared to the affected area.

Response: The Region agrees that the definition of the OLS is critical due to the large number of properties involved. The OLS is defined as residential-type properties that are contaminated due to emissions from historic lead smelting and refining operations. The OLS boundaries described in the NRRB briefing package generally describe the area where we expect to find these

properties, but is not intended to limit the size of the OLS in any way. Residential properties become a part of the OLS only when testing shows lead levels exceeding certain criteria. The OLS is therefore defined on a property-by-property basis. The criteria used for including a property as part of the OLS are significantly above background levels on the basis of existing data.

Testing performed during the remedial investigation indicates a background level of lead in the Omaha area of approximately 26 parts per million (ppm). Currently, the Region is cleaning yards to a residual concentration of less that 400 ppm. The Region agrees that background lead levels are important and will collect additional data during the next several years to better define background levels in Omaha.

2. The package provided to the NRRB clearly described the Region's proposed remedy to include both the removal and in-situ treatment of lead-contaminated soils, depending on the lead concentrations, with an associated cost of about $100 million. However, the viability of the treatment component is the subject of phosphate treatability studies which the Region indicated could take up to two years and yet are only beginning at this time. In response to questions at the meeting about the impact on the remedy if phosphate treatment is found to be ineffective, the Region indicated that the planned decision documents would be selecting a total excavation remedy with a cost of about $200 million. Onsite soil treatment would only be used pending the successful outcome of the pilot studies. In view of the ongoing studies of phosphate treatment and its ability to be used in a residential setting, the NRRB recommends that the Region proceed with an interim remedy Record of Decision (ROD) to address the more highly contaminated residential properties (via excavation and offsite disposal of soils). Once the treatability studies for phosphate treatment have been completed and a determination made of the effectiveness of its use to remediate the lesser contaminated properties, the Region can proceed with a subsequent Proposed Plan for public comment describing how remaining properties will be addressed.

Response: The Region agrees with the recommendation of the NRRB and plans to issue a Proposed Plan describing an interim action that would address the more highly contaminated soils while a treatability study to evaluate the effectiveness of phosphate treatment is performed. The Proposed Plan will identify a preferred alternative that addresses 5,600 residential properties estimated to exceed 800 ppm in at least one non-foundation sample (to avoid influence of exterior lead-based paint). These higher priority properties will be addressed at an estimated cost of $77.4 million while the treatability study is underway. The Region estimates that at least three years will be required to complete the treatability study. A final ROD will be issued subsequent to the completion of the treatability study selecting a remedy for the lesser contaminated properties. The interim approach also provides an opportunity to gather additional data to further characterize risks associated with exposure to the lesser contaminated properties.

3. The information package provided to the NRRB states that no institutional controls are planned for the OLS since the combined soil removal and phosphate treatment will control the risks caused by historical lead processing. However, the Region states that if contaminated soil remains below the 12-inch excavation depth, a marker barrier will be installed. The NRRB recommends that the decision documents clearly articulate this potential circumstance and associated needs for institutional controls as part of the selected remedy. The NRRB encourages that some type of control be put in place to ensure that workers or future residents understand what those barriers mean. Further, in yards where phosphate treatment might ultimately be used, then the Region should also discuss what type of control/notification is needed as a result of placement.

Response: The Region has received a health advisory for the OLS from the Agency for Toxic Substances and Disease Registry (ATSDR) stating that removal of soil to a residual concentration of less than 1,200 ppm at a depth of one foot or greater is protective of human health if backfilled to the original surface with clean material. The Proposed Plan will describe a preferred alternative that involves removing contaminated soils to a residual level at the exposed surface of the excavation of less than 400 ppm in the upper one foot, or less than 1,200 ppm at depths of one foot or greater. These criteria will assure that all remediated properties are protective for unrestricted residential use, thereby eliminating the need for institutional or engineering controls on these properties. The preferred alternative does include working with the local government to develop institutional controls that prevent future residential use of non-remediated properties without appropriate action being taken.

4. The Region stated that the modified cost estimates presented in the information package assume that the excavated lead-contaminated soil will be used as daily cover at an offsite landfill at approximately $14/ton. This would equate to a total disposal cost of $14 million. Since the final disposal location has not yet been determined, the NRRB is concerned that the estimated one million tons of soil removed will not all be disposed as daily cover. Therefore, the Region is encouraged to work with the state of Nebraska to identify potential disposal options for the contaminated soil in order to develop a range of cost estimates for incorporation into the appropriate decision documents.

Response: The Region has coordinated with the state of Nebraska, Douglas and Sarpy Counties, and the city of Omaha to develop a range of disposal options for the excavated contaminated soil. Several disposal options are presented and discussed in the OLS feasibility study, including use as daily landfill cover, use as beneficial fill, or construction of an offsite soil repository. Currently, the most favorable alternative involves the use of the excavated materials as beneficial fill for the purpose of leveling a construction site for a planned yard waste composting facility to be operated by the city of Omaha. This alternative would significantly reduce disposal costs for the excavated materials.

5 The information package presented to the NRRB indicates that the preliminary remediation goal (PRG) for lead will be based on site-specific bioavailability

measurements and may be less than the 400 ppm screening level based on default values in the EPA guidance. The Region is proposing, as part of the preferred alternative, to implement lead-poisoning prevention activities, in combination with active remediation, to ensure protection of human health at residences. The NRRB recommends that if prevention activities are necessary for protection, these activities be specified in the decision documents. The NRRB also recommends that risk management decisions regarding the level of contamination to be protected by prevention activities should be explained in the decision documents, and that these activities be portrayed as a form of institutional controls.

The preferred alternative presented in the Proposed Plan will include several elements that in conjunction with excavation and removal of contaminated soil provide protection of human health. These additional elements include public health education and access restrictions that are described in Chapter 4 of the OLS feasibility study as forms of institutional controls. The specific health education activities described in the feasibility study include:

- Physicians' education for diagnosis, treatment, and surveillance of lead exposure
- Prevention programs for Lamaze and pre-natal groups associated with local hospitals
- Extensive community-wide blood-lead monitoring
- In-home assessments for children identified with elevated blood-lead concentrations
- Distribution of prevention information and literature
- Development and implementation of prevention curriculum in schools
- Education of community groups such as Girl and Boy Scouts
- Provision of a High Efficiency Particulate Vacuum Cleaner (HEPAVAC) for interior cleaning
- Maintenance of a public database for homes where protective barriers are placed at depth as warning to underlying contamination

In the Proposed Plan, the Region is committing to partner with other public and private parties to develop and implement a comprehensive approach addressing the various sources of lead threatening the Omaha community. The EPA will directly support any appropriate elements, including the health education activities listed above, to the extent that Superfund authority extends to these specific activities. All risk management decisions will be discussed in the ROD.

6 The package presented to the NRRB did not include a detailed description of applicable or relevant and appropriate requirements (ARARs); therefore, the NRRB was unable to determine if there are any ARARs issues warranting discussion. The NRRB assumes the Region will include a detailed ARARs discussion in the decision documents.

Response: A detailed discussion of ARARs was developed in coordination with the state and included in the OLS feasibility study. This discussion will be carried forward to the Proposed Plan and ROD.

7. The NRRB notes that, although there is extensive documentation of patterns of refinery contamination, other sources may contribute to elevated blood-lead concentrations. The NRRB encourages the Region to coordinate with the Douglas County Health Department, the ATSDR, and other agencies as appropriate, to conduct an exposure study or, at minimum, to monitor long-term trends in blood lead at the OLS to ensure that there are not any other sources that might be contributing to elevated levels.

Response: An analysis of potential airborne lead sources was performed as part of the OLS remedial investigation. This analysis concluded that the lead contamination on the OLS resulted from air deposition originating at industrial properties in downtown Omaha. These facilities have been closed, and no other potential industrial sources that would influence residential lead concentrations at the OLS have been identified. The Region is actively coordinating with the Douglas County Health Department, the Nebraska Health and Human Services System, and the ATSDR to develop and implement an exposure study which will provide additional data that will be useful in determining if other sources of lead exposure exist in the Omaha area.

8. Because the proposed phosphate treatment technology has been used at few sites to date, residents may be concerned about safety, permanence, and restrictions on use of the treated soil (e.g., gardening). The NRRB recommends that the Region clearly address such concerns as well as clarify the need for future maintenance of treated soils in the decision documents.

Response: The Proposed Plan and subsequent decision documents will emphasize the importance of the treatability study in determining the effectiveness of phosphate treatment for OLS soils. The treatability study will evaluate the continued effectiveness over a period of at least three years and identify any maintenance requirements and use restrictions which would be clearly communicated in subsequent decision documents. At this time, the Region anticipates consideration of phosphate treatment for the lesser contaminated OLS properties only if this procedure is safe and effective and does not result in burdensome maintenance requirements or use restrictions for the homeowner.

9. The information package presented to the NRRB is not clear with regard to the soil sampling program that would be employed to determine if a residential property qualifies for remedial action. The Region explained that the sampling methodology would utilize the quadrant and aliquot approach outlined in the "EPA Superfund Residential Lead-Sites Handbook." The NRRB recommends that the decision documents clearly present the sampling program specified by the handbook so it is understood by the community. The decision documents should also explain that contaminated dripline soils will not be removed if other yard soil is not contaminated, and that partial soil removal will be used where sampling indicated localized contamination exceeding the target concentrations.

Response: The Proposed Plan and subsequent decision documents will clearly state that the preferred alternative will utilize the standardized sampling methodology described in the "EPA

Superfund Residential Lead-Sites Handbook." for decision-making purposes, and that at least one non-foundation sample must exceed the action level for a response action to be taken. The standard quadrant and aliquot approach presented in the handbook will be described in subsequent decision documents.

10. The package did not include the costs associated with air monitoring during implementation of the active remedy. The Region stated that it planned to rely on results of past monitoring of lead cleanups to show that monitoring would not be necessary. The NRRB recommends that the Region include regular, ongoing air monitoring as required by 29 CFR 1910.120, to ensure that lead dust is not spread as a result of the excavation activities.

Response: The selected remedial action will include air monitoring required by 29 CFR 1910.120.

11. The cost estimates in the package lacked sufficient detail and as a result, the NRRB was unable to perform a detailed evaluation. The NRRB recommends that the decision documents provide a detailed cost estimate as presented in the ROD guidance.

Response: Cost estimates were further developed during the preparation of the OLS feasibility study, and these detailed cost estimates will be carried through to the Proposed Plan and subsequent decision documents.

12. The cost estimates in the package presented to the NRRB included a $500 per home house interior cleaning for every house remediated. Based on mixed experience on the effectiveness of house cleaning at other sites, the NRRB recommends that the Region evaluate housecleaning options to ensure it will be effective before widespread implementation. In addition, the NRRB recommends that interior cleaning efforts be focused on homes with children whose blood-lead levels continue to be elevated after the soil around their house has been remediated.

Response: The Region intends to implement interior house cleaning procedures that have proven successful at other lead sites in Region 7 where interior dust remediation has been a component of the selected remedy. The Region agrees that households with children exhibiting an elevated blood-lead level should be prioritized for response, including interior cleaning at residences where soil remediation is performed and EPA and The Department of Housing and Urban Development (HUD) standards for interior dust are exceeded. The Region believes that it is also important to address interior dust at all homes where soil remediation is performed to assure protection of both current and future residents.

13. The package provided to the NRRB was unclear about the extent of yard restoration being included in the proposed remedy. The NRRB recommends that the decision documents contain more detailed information on the nature of the restoration activities that would

follow remediation of contaminated soil. In particular, the Region should clarify when and what type of restoration would occur to ensure the public has sufficient opportunity to provide comments on the proposed approach.

Response: The Proposed Plan will discuss in detail the proposed approach to lawn restoration in order to assure that the public has sufficient opportunity to provide comment on this aspect of the remedy.

If you have questions regarding these responses, or any other issue related to the OLS, please do not hesitate to contact me at (913) 551-7733, or alternatively, you may contact Bob Feild, who has assumed the project coordinator role for OLS, at (913) 551-7697.